

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference MSP637	FOR FURTHER ACTION		See item 4 below
International application No. PCT/EP2004/007805	International filing date (<i>day/month/year</i>) 02 July 2004 (02.07.2004)	Priority date (<i>day/month/year</i>) 11 July 2003 (11.07.2003)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant DOW CORNING CORPORATION			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 *bis*.1(a).
2. This REPORT consists of a total of 6 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

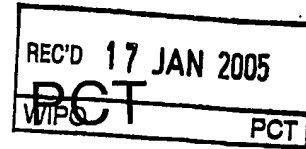
3. This report contains indications relating to the following items:

<input checked="" type="checkbox"/> Box No. I	Basis of the report
<input checked="" type="checkbox"/> Box No. II	Priority
<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/> Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/> Box No. VI	Certain documents cited
<input type="checkbox"/> Box No. VII	Certain defects in the international application
<input type="checkbox"/> Box No. VIII	Certain observations on the international application
4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 740 14 35	Date of issuance of this report 16 January 2006 (16.01.2006)
	Authorized officer <div style="text-align: center;">Ellen Moyse</div> Telephone No. +41 22 338 89 75

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY



To:

see form PCT/ISA/220

20/1

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/EP2004/007805

International filing date (day/month/year)
02.07.2004

Priority date (day/month/year)
11.07.2003

International Patent Classification (IPC) or both national classification and IPC
C07F7/21, C07F7/08

Applicant
DOW CORNING CORPORATION

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2004/007805

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2004/007805

Box No. II Priority

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. ☐ It has not been possible to consider the validity of the priority claim because a copy of the priority document was not available to the ISA at the time that the search was conducted (Rule 17.1). This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

4. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-6
	No: Claims	
Inventive step (IS)	Yes: Claims	1-6
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-6
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

D1: US-A-5395956

D2: US-A-5247116

D3: EP-A-552925

The document D1 is regarded as being the closest prior art to the subject-matter of claims 1-5, and discloses (see D1, claims 1, 13-16, 19, 20):

A process for preparing cyclic organohydrogensiloxanes, the process comprising:

(A) contacting a silane described by formula

RHSiCl_2 (where R is selected from a group consisting of saturated monovalent hydrocarbon radicals comprising 1 to 12 carbon atoms and aryl radicals) with about a stoichiometric equivalent of water to form a hydrolysate comprising cyclic organohydrogensiloxanes and linear organohydrogensiloxanes,

(B) contacting the hydrolysate with an acidic rearrangement catalyst in the presence of an inert solvent thereby increasing the ratio of the cyclic organohydrogensiloxanes to linear organohydrogensiloxanes in the hydrolysate, and

© recovering the cyclic organohydrogensiloxanes;

The catalyst may be an organic compound having a strong acid group such as a sulfonated divinylbenzenestyrene copolymer resin (D1, claim 16) which is a heterogeneous catalyst (claim 13).

The process of independent claim 1, therefore, differs from this known method in that the catalyst is selected from the broad definition in D1, claim 1 such that it can be dissolved in the inert solvent.

Hence, claim 1 is novel (Article 33(2) PCT).

The problem to be solved by the present invention may therefore be regarded as improving the process known from D1.

The problem is solved as can be seen from paragraphs 25 and 26 of the present application: the % of cyclics is higher when a rearrangement catalyst according to claim 1 of the present application is used.

The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

D2 suggests inter alia trifluormethanesulphonic acid (column 5, line 7) but in the absence of a solvent (column 2, line 43 and column 3, line 29). Hence, the combination of D1/D2 does not result in the process of present claim 1.

D3 describes a redistribution process of a cyclic siloxane under anhydrous conditions comprising, contacting at least one cyclic siloxane having the general formula $(R_2SiO)_x$ with a catalysing organosilicon compound having the general formulas shown in claim 2 in the presence of a solvent (claim 3).

D3 does not alter a cyclic/linear ratio. Although, formally, D1 can be combined with D3 to results in a process according to claim 1 such combination would not be taken into account by the skilled person because D3 seeks to solve a different problem.

Finally, none of the documents is able to predict the improvement over the D1 process.

The solution according to the resent application is therefore based on inventive merit.

Claims 2-6 is dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.